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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,021	03/19/2004	Masaharu Kondo	500.40249CX1	6930

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ARLINGTON, VA 22209-3873

EXAMINER

ALPHONSE, FRITZ

ART UNIT	PAPER NUMBER
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2112

NOTIFICATION DATE	DELIVERY MODE
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06/18/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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dprater@antonelli.com  
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## Office Action Summary

Application No.

10/804,021

Applicant(s)

KONDO ET AL.

Examiner

Fritz Alphonse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 is/are allowed.
- 6) ☒ Claim(s) 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/19/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office Action is in regard to the Preliminary Amendment filed on 6/18/2004. Claims 1-7 are canceled; claims 8-14 are pending; claims 1, 11 and 13 are independent.

#### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 3/19/2004 and previously submitted on application serial No 09/888,654 filed 26 June 2001 has been considered by the examiner.

#### ***Specification***

3. The abstract of the disclosure is objected to because it is not in a narrative form. Since the abstract consists of a single sentence, it does not describe the disclosure sufficiently to assist in understanding the invention. In addition, the abbreviation "GF" recites in the abstract should be replaced by---Galois Field--- Correction is required. See MPEP § 608.01(b).

#### ***Claim Objections***

4. Claim 8 is objected to because of the following informalities: the abbreviation "GF" recites in the claim 8 line 6 should be replaced by---Galois Field---. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 recites the limitation "the error correcting coding operation" in lines 5 and 9-10.

There is insufficient antecedent basis for this limitation in the claim.

***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 8 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent No. 6,728,052. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to a person of ordinary skill in the art to use the decoding circuit for generating

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redundant symbols based on input symbol stream the interleaver and a selector for selectively output the generated redundant symbols. .

Claim 8 of the instant application contains substantially the limitations of claim 3 of U.S. Patent # 6,728,052 except the limitations "means for generating redundant symbols based on input symbol stream from said interleaver; and a selector which selectively outputs the generated redundant symbols." See the table below.

Instant Application No. 10/804,021	U.S. Patent No. 6,728,052
<p>8. A recording/reproducing apparatus comprising: an interface for converting an input signal to binary data;</p> <p>an interleaver for segmenting the converted binary data into a plurality of data blocks;</p> <p>a coding circuit for performing the error correcting coding operation for each of said data blocks using an elliptic code on a finite <math>GF(2^m)</math> where <math>m</math> is a positive integer, wherein a length of said elliptic code is longer than <math>2^m - 1</math> and not more than <math>2^m + 2^{1+m/2}</math>;</p> <p>a signal processing circuit for converting the data block subjected to the error correcting coding operation into an analog signal for recording in a recording medium, and converting the analog signal read from said recording medium into binary data; and</p> <p>a decoding circuit for detecting and correcting an error of the binary data converted by said signal processing circuit using said elliptic code,</p> <p>wherein said coding circuit comprises: means for generating redundant symbols based on input symbol stream from said interleaver; and a selector which selectively outputs the</p>	<p>3. A recording/reproducing apparatus comprising: an interface for converting an input signal to binary data;</p> <p>an interleaver for segmenting the converted binary data into a plurality of data blocks;</p> <p>a coding circuit for performing the error correcting coding operation for each of said data blocks using an elliptic code on a finite <math>GF(2^m)</math> where <math>m</math> is a positive integer, wherein a length of said elliptic code is longer than <math>2^m - 1</math> and not more than <math>2^m + 2^{1+m/2}</math>;</p> <p>a signal processing circuit for converting the data block subjected to the error correcting coding operation into an analog signal for recording in a recording medium, and converting the analog signal read from said recording medium into binary data; and</p> <p>a decoding circuit for detecting and correcting an error of the binary data converted by said signal processing circuit using said elliptic code.</p>

generated redundant symbols.	
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However, adding or deleting the limitations “means for generating redundant symbols based on input symbol stream from said interleaver; and a selector which selectively outputs the generated redundant symbols” does not change the scope of the claim and would produce the same end result.

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time of the invention to use a coding system for generating redundant symbols based on input symbol stream from an interleaver; and a selector which selectively outputs the generated redundant symbols, as disclosed in U.S. Patent No. 6,728,052. By doing so the number of elliptic code will be reduced.

Claims 9-10 depend from rejected claim 8.

***Allowable Subject Matter***

8. Claims 11 and 13 are allowed.

The closest art of record, Yoshida (U.S. Pat. No. 6,052,820) an error correction encoding and decoding method using Reed-Solomon codes in which redundant circuitry is eliminated. Yoshida, however, fails to disclose the limitations of claims 11 and 13.

Claim 11 is allowable because none of the cited references either singular or in combination discloses “a vector generating circuit which converts a plurality of points from said rational point generator into a value which is same as a number of the redundant symbols; a matrix calculation circuit which executes matrix calculation on an output of a vector generating

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circuit; a scalar multiplier which multiplies each output of said matrix calculation circuit by a value of the input symbol.”

Claim 13 is allowable because none of the cited references either singular or in combination discloses an error correcting coding method including “generating a plurality of vectors based on said plurality of points; outputting a scalar multiplexed vector which is produced by multiplying every point of said vector by a value of the input symbol stream; adding each said scalar multiplexed vector to the redundant symbols stored in a memory and storing a resultant of the addition into said memory; and selecting and outputting said input symbol stream, and then selecting and outputting said redundant symbols stored in said memory.”

Claims 12 and 14 would be allowed by virtue of dependency.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

**or faxed to:** (703) 872-9306 for all formal communications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse, whose telephone number is (571) 272-3813. The examiner can normally be reached on M-F, 8:30-6:00, Alt. Mondays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques, can be reached at (571) 272-6962.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3824

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Fritz Alphonse

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